

REMARKS

These remarks are responsive to the Final Office Action dated June 2, 2008. Claims 25-38 are pending in the present application. Claims 25-37 have been rejected. Claims 25, 27, and 29-32 have been changed and claim 38 has been added by this amendment.

Applicant has amended claims 25, 27, and 29-32. Applicant is not conceding in this application that the claims prior to amendment are not patentable over the art cited by the Examiner, as the present claim amendments are only for facilitating expeditious prosecution of the current subject matter. Applicant respectfully reserves the right to pursue the original and other claims in one or more continuations and/or divisional patent applications.

The amendments to the claims are fully supported by the specification. The central system and different client systems are described, for example at page 5, for example. The first and second paths only using their associated type of storage is disclosed in Fig. 2 and pages 5 and 6, for example. Claim 38 is supported by page 10, lines 5-14. Thus, no new matter has been added.

Claim Rejections - 35 USC § 102

Claims 25-37 were rejected under 35 U.S.C. § 102(e) as being anticipated by (Boucher et al., U.S. Patent No. 6, 434,620 B1) ("Boucher"). Applicant respectfully traverses, and has amended claim 25 to clarify the invention.

Boucher discloses a network interface device which provides a fast path for messages that qualify, and a slow path for messages that do not qualify, where messages are selected for either the fast path or the slow path. The fast path allows an intelligent network interface card (INIC) to process the messages rather than the host. Messages are sent on the fast path if they contain a TCP segment that is "owned" by the INIC (i.e. included in a subset of control blocks that is cached by the INIC).

Applicant's claim 25 recites that data packets are received at a central system from one of a plurality of pipes, each pipe connecting a different client system to the central system, the data packets being received during a time interval specific to the one pipe, each of the plurality of pipes in the computer system having a different time interval during which associated data packets are received. Boucher does not disclose or suggest receiving data packets at a central system from one of a plurality of pipes in the computer system, each pipe connecting a different client system to the central system, and examining the data packets to determine whether to transmit the packets on one of a first path and second path. Boucher does not disclose any different pipes connecting to the system nor a different time interval for each pipe. Boucher discloses a single network connection (col. 1, lines 35-39). Boucher's fast-path and slow-path are not Applicant's plurality of pipes since Boucher's paths are used after the packet is received, while data packets are received on Applicant's pipes before a fast path or slow path is used to transmit the received packets.

Furthermore, Boucher also does not disclose or suggest a first path having a first storage that is a first type of storage, and a second path having a second storage that is a second type of storage, where the first type of storage is smaller and faster than the second type of storage, wherein only the first type of storage is used to store the data packets on the first path and only the second type of storage is used to store the data packets on the second path. Boucher discloses allocating large and small buffers on a single path, and using the large buffer if a received frame does not fit in the small buffer (col. 13, lines 27-43). For example, Boucher's slow path has both a small buffer and a large buffer (col. 11, lines 23-37). Nowhere does Boucher disclose using the large and small buffers separately on the fast and slow paths as recited in claim 25. Furthermore, Boucher does not disclose or suggest that the larger buffer is slower than the smaller buffer as recited in claim 25. Boucher thus does not disclose or suggest using only a fast type of storage for a fast path and using only a slow type of storage for a slow path, as recited in claim 25.

Applicant therefore believes that claim 25 is patentable over Boucher.

Claims 26-37 are dependent on claim 25 and are patentable over Boucher for at least the same reasons as explained for claim 25, and for additional reasons. For example, claim 29 recites that the forwarding of the data packets to the second storage for transmission on the second path is responsive to occupation of data packets from the one pipe in the first storage being greater than a threshold set for the one pipe during a previous time interval specific to the one pipe. Boucher mentions nothing about a threshold related to the first storage and set during a previous time interval specific to that pipe. Boucher discloses sending frames to a large buffer if the frames will not fit in the small buffer (col. 13, lines 28-43), and does not disclose a first storage threshold set during a previous time interval. Applicant's claim 29 allows a threshold to be set based on a time interval in which the data packets for a particular pipe are received. Furthermore, Boucher does not examine the recited threshold to determine sending a frame on the first path or second path; rather, Boucher checks whether the TCP segment is owned by the INIC to determine whether a packet is sent on the fast path or slow path (col. 7, lines 22-31, col. 11, lines 23-30).

Claim 30 recites forwarding the data packets to the second storage for transmission on the second path responsive to occupation of data packets from the one pipe in the first storage being less than or equal to a threshold set for the one pipe during a previous time interval specific to the one pipe. Also, during the previous time interval, at least one packet is contained in the second storage and packets on the one pipe were transmitted on the second path. Boucher does not disclose or suggest determining whether to send data packets to the second storage based on a first storage threshold, and based on packets in the second storage and path in a previous time interval. Boucher stores frames in a second larger storage only when a first storage is not sufficient to store the frames, and does not examine the recited conditions to determine sending a frame on the first path or second path (Boucher uses the TCP segment to determine whether a packet is sent on the fast path or slow path, not the recited conditions). Claims 31 and 32 similarly recite conditions not examined in Boucher in determining which storage to store data packets.

Claim 33 recites that the time interval specific to the one pipe is proportional to a storage capacity of the first storage for the one pipe divided by a maximum possible arrival rate of data packets for the one

pipe. Boucher does not disclose a time interval for a pipe as recited. For example, col. 40, lines 40-46, cited by the Examiner, describes pointers and maps to buffers, but nothing about a timer interval proportional to a storage capacity divided by a maximum possible arrival rate of data packets for a pipe, as recited. Claims 34 and 35 are similarly not disclosed by Boucher; for example, col. 61, lines 40-49, as cited by the Examiner, refers to register process slots for jobs to process receiving and sending frames—this is referring to registers, not the large or small buffers holding data, and thus does not mention one-eighth or one-half a storage capacity of the first storage divided by a maximum possible arrival rate of packets for a pipe to determine a time interval for one pipe of a plurality of pipes.

In view of the foregoing, Applicant believes that claims 25-37 are patentable over Boucher, and respectfully requests that the rejection under 35 U.S.C. 102(e) be withdrawn.

New Claims

New claim 38 recites that the threshold is set such that the threshold plus the maximum possible input rate for the one pipe multiplied by the time interval specific to the one pipe, is less than a storage capacity of the fast storage for the pipe. Boucher does not disclose or suggest setting a threshold relative to the first storage as recited in claim 38.

On the basis of the above remarks, reconsideration and allowance of the claims is believed to be warranted and such action is respectfully requested. If the Examiner has any questions or comments, the Examiner is respectfully requested to contact the undersigned at the number listed below.

Respectfully submitted,
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